

Applicant: Donald L. Schilling
Application No.: 10/071,898

REMARKS

Reconsideration of the application, as amended, is respectfully requested. By this amendment, claims 1, 4, 6 and 7 have been amended and new claims 10-13 have been added. The changes to claims 1, 4, 6 and 7 define the generation of a remote reference signal (chip-code signal in claim 6). Claims 1, 4 and 7 also have language defining the synchronization of the received and remote reference signals. Support is found throughout the specification, including paragraphs [0039]-[0040] and [0048].

New claims 10-17 define specific derivations of the remote reference signal or chip-code signal (claims 14 and 15). Support is found in the specification, for example at paragraph [0088].

In the Office Action, the drawings were objected to as failing to show certain steps. Accordingly, substitute drawing Figure 4 is submitted, showing these steps. These steps are believed to be adequately described in the description and are self-explanatory in the drawing.

The specification was objected to as not providing antecedent basis for the claims, with respect to the claimed "reference signal". The reference signal is mentioned in the summary (paragraph [0011]). This term is also specifically used in paragraphs [0058] and [0073]. In general, the function is described throughout

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the specification as signals used as reference against which the spread spectrum spreading or despreading is performed.

The claims were rejected under 35 USC §112 as not enabled. It is believed that the revised claims fall under the descriptions set forth in the Office Action. The claims do not claim that the transmitter generates the chip-code signal of claim 6 (or reference signal, claims 1, 4 and 7). The claims are to the spread spectrum remote unit, and the reference or chip-code signal are detected. In the case of claim 6, retransmission is defined; however the remaining claims define the reception of the signals described in the Office Action. This is as described in the specification, for example at paragraphs [0088] and [0089].

In the office action, claim 6 was rejected under 35 USC §112, paragraph 2, as being incomplete with respect to a gap in the essential elements. It is believed that revised claims 6 overcomes this rejection.

In the Office Action, claims 1-9 were rejected under 35 USC §112, paragraph 2, as failing to particularly point out and distinctly claim the claimed subject matter.

In the Office Action, the claims were provisionally rejected under the doctrine of obviousness-type double patenting over claims 1-6 of Application 10/072,083. Applicant is willing to submit a terminal disclaimer to overcome this rejection, if the Examiner deems the claims otherwise allowable.

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In the Office Action, claims 1-6 were rejected under 35 USC §103 as obvious over Cowart, U.S. Patent 4,979,183, taken in view of Gilhousen, et al., U.S. Patent 5,101,501. This rejection, as applied to the amended claims, is respectfully traversed.

Applicant's invention, as defined in claim 1 defines, *inter alia*, a spread spectrum remote unit which includes a plurality of detector means and synchronization means, for detecting a reference signal within a received spread spectrum/signal, means for generating a remote reference signal at the remote unit, means to synchronize the remote reference signal with the detected reference signal, and means for recovering message data using information from the detected reference signal.

Cowart is cited as showing the use of a reference signal and a message signal in a spread spectrum transceiver. While it is noted that Cowart does not show the use of a remote unit, more significantly, there is no suggestion that the transceiver generate a remote signal. Cowart neither shows nor suggests synchronization of a reference signal generated by the transceiver with a detected reference signal.

Instead, Cowart uses a stable reference signal with no suggestion that the reference signal be generated in response to a received reference signal. Instead, the Cowart description is of the use of a quartz crystal standard with no outside reference. See Cowart at col. 7, lines 19-39.

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Gilhousen, et al. describe a mobile CDMA system which communicates with mobile units. Each cell-site transmits a different "pilot-carrier" signal which is used by the mobile units. The concept of a reverse pilot signal is not mentioned, and in fact the mobile unit uses the cell-site transmitted pilot signals to determine strength of cells and other functions. There is no suggestion in Gilhousen, et al. that a locally generated pilot signal be provided by the mobile units.

Therefore a combination of Cowart and Gilhousen, et al. would necessarily contradict (or "teach away from") the use of a locally generated pilot signal in the mobile unit. Applicant's claims specify, "...means for generating a remote reference signal at the remote unit and means to synchronize the remote reference signal with the detected reference signal... ." (Claim 1; other independent claims similar.) Applicant further defines "...recovering the message data of at least one of the message signals using information from the detected reference signal." (Claim 1; other independent claims similar.)

These features are neither shown nor suggested by the prior art of record, when taken in combination or individually. Accordingly claims 1-5, as well as claims 10-13 are unobvious and allowable over the prior art of record.

Applicant's claim 6 specifies, "... means for detecting a base-generic-chip-code signal...". and further defines, "... means for producing a remote-chip-code signal ... for use in recovering the message data from a combined spread spectrum signal ..."

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The claim goes on to define, "... means for combining the remote-chip-code signal and the remote message signal ...and means for transmitting the combined signal as the combined spread spectrum signal."

These features are neither shown nor suggested by the prior art of record, when taken in combination or individually. Accordingly claims 6 and 14-15 are unobvious and allowable over the prior art of record.

Claims 7-9 have been rejected under 35 USC §103 as obvious over Cowart and Gilhousen, taken further in view of Schilling, U.S. Patent No. 5,228,056. This rejection, as applied to the amended claims, is respectfully traversed.

Schilling '056 does describe a multi-user system and further describes, "The recovered-carrier signal from the generic-bandpass filter 125 serves as the reference signal for synchronously demodulating each of the plurality of message-data signals by the plurality of synchronous detectors, as a plurality of received data, $d_{sub.1}(t)$, $d_{sub.2}(t)$, , , $d_{sub.N}(t)$." Schilling '056 also describes generating a replica of the generic-chip-code signal, and using the replica of the generic-chip-code signal for despreading the spread-spectrum-communications. It is submitted that this combination is useful, but does not fully anticipate the present claimed invention. In addition, Applicant has (in the present application) defined, "... means to synchronize the remote reference signal with the detected reference signal; and means, including a plurality of detector means and synchronization means, for

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recovering the message data of the plurality of message signals using the remote reference signal." This is not described by the prior art of record taken in combination or individually.

Accordingly claims 7-9, as well as claims 16-17 are unobvious and allowable over the prior art of record.

It is therefore submitted that the application, as presently amended, defines patentable subject matter. Therefore, the application is in a condition for allowance. Such allowance at an early date is respectfully requested.

If the Examiner feels that a conference will expedite the prosecution of this case, the Examiner is cordially invited to call the undersigned. To that end, an Examiner's amendment to this case would be welcomed and appreciated.

The foregoing is believed to be a complete response to the outstanding office action.


For the above reasons, Applicant respectfully submits that the presently claimed invention is patentable over the prior art. Reconsideration and allowance of the claims is respectfully requested.

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For the above reasons, Applicant respectfully submits that the presently claimed invention is patentable over the prior art. Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

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